

ABSTRACT OF THE DISCLOSURE

A crystalline semiconductor layer can be formed by forming a semiconductor film on an inexpensive conventional substrate. Next, perform a first annealing process in which nearly the entire surface of the semiconductor film is exposed to
5 laser irradiation or other forms of irradiation, and then perform a second annealing process consisting of rapid thermal annealing. This enables the formation of a high quality crystalline semiconductor film with high throughput but without subjecting the substrate to undue thermal stress. When this invention is applied to thin film
transistors, good transistors having high performance are easily fabricated. When this
10 invention is applied to solar cells, energy conversion efficiency is increased.

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